CLAIMS

1. A biological information measuring apparatus comprising:

a light source;

a living body measuring optical element of applying light emitted from said light source to a living body and receiving light returning from said living body;

a light detector of detecting said light received by said living body measuring optical element; and

a reference light guide capable of guiding the light applied by said living body measuring optical element so that the light can be returned to said living body measuring optical element, in a state of being arranged in contact with said living body measuring optical element.

2. The biological information measuring apparatus according to claim 1, further comprising a calculation section of providing biological information of said living body through calculation based on the light returned from said living body and detected by said light detector,

wherein the calculation section detects that at least one of said light source, said living body measuring optical element and said light detector abnormally functions based on the light detected by said light detector in a state where

said light guide is arranged in contact with said living body measuring optical element.

3. The biological information measuring apparatus according to claim 1, further comprising a calculation section of providing biological information of said living body through calculation based on the light returning from said living body and detected by said light detector,

wherein the calculation section corrects said biological information based on the light detected by said light detector in a state where said light guide is arranged in contact with said living body measuring optical element.

4. The biological information measuring apparatus according to claim 1, wherein a concave-convex portion is formed on a part of the surface of said living body measuring optical element, and the part of said light guide which is to be in contact with said living body measuring optical element is deformable.

5. The biological information measuring apparatus according to claim 1, wherein said light guide is formed of a material having a refractive index higher than that of the air and lower than that of said living body measuring optical element.

6. The biological information measuring apparatus according to claim 1, wherein said light guide is a scattering body.

7. The biological information measuring apparatus according to claim 4, wherein said light guide is an elastic substance.

8. The biological information measuring apparatus according to claim 7, wherein said light guide has an elasticity modulus of 1 to 10 MPa.

9. A reference element for use in a biological information measuring apparatus comprising:

a light source;

a living body measuring optical element of applying light emitted from said light source to a living body and receiving light returning from said living body; and

a light detector of detecting the light received by said living body measuring optical element,

the reference element comprising:

a light guide capable of guiding the light applied by said living body measuring optical element so that it returns to said living body measuring optical element in a state of being arranged in contact with said living body measuring optical element.

10. The reference element according to claim 9, further comprising a cover of covering a portion of said light guide other than the portion which is in contact with said living body measuring optical element.

11. The reference element according to claim 9, wherein a part of said light guide which is in contact with said living body measuring optical element is deformable.

12. The reference element according to claim 9, wherein said light guide is formed of a material having a refractive index higher than that of the air and lower than that of said living body measuring optical element.

13. The reference element according to claim 9, wherein said light guide is a scattering body.

14. The reference element according to claim 11, wherein said light guide is an elastic substance.

15. The reference element according to claim 14, wherein said light guide has an elasticity modulus of 1 to 10 MPa.

16. A method of using a biological information measuring apparatus using the biological information measuring apparatus according to claim 1, comprising:

a biological information measuring step of measuring biological information based on the light detected by said light detector in a state where said living body measuring optical element is in contact with a target living body to be measured; and

an abnormality-correcting step of detecting or correcting an abnormality based on the light detected by said light detector in a state that said reference light guide is in contact with said living body measuring optical element.